

BPI-TA1

Tracking Accuracy Sensor



Black Photon
Instruments

TA1

Technical Specification

Application: Black Photon's new tracking accuracy sensor is able to measure the position of a tracking device in relation to the sun. These measurements are particularly useful for tracker and module development or power plant monitoring.

- Optics: Measurement range $\pm 1.2^\circ$, other angles on request
- OpAmp based build-in low-noise pre-amplification and signal conditioning allows for measurement rates of 1 kHz and more for vibration analysis.
- Resolution 0.0005°
- Standard deviation of linearity and accuracy with regular recalibration (Op. Temp. Range $5^\circ\text{C} \dots 45^\circ\text{C}$):
Linearity: $\pm 1.8\%$ of full scale
Accuracy: $\pm 2.4\%$ of full scale
- Standard deviation of linearity and accuracy with regular recalibration (Extended Op. Temp Range $-20 \dots 60^\circ\text{C}$):
Linearity: $\pm 3.0\%$ of full scale
Accuracy: $\pm 4.5\%$ of full scale
- Sensor Output: 4 analog voltage outputs $-10 \dots +10\text{V}$:
X-signal (Azimuth), Y-signal (Elevation), light intensity correction (2x).
- Adjustable 3-point spring mounting
- Outdoor-proof encapsulation
- CNC-milled aluminum housing for excellent EMC shielding and high mechanical strength
- Power supply: 24 V DC (available on request)
- Waterproof industrial-grade M12-connector
10 m connection cable included, 20 m on request
- 1 year extended warranty against all kinds measureable degradation of the sensor.



Specification Version 3.11

About Black Photon Instruments GmbH:

Black Photon Instruments is a Freiburg (Germany) based company which offers new ways for solar radiation measurements. Our technology is developed in close cooperation with the Fraunhofer Institute for Solar Energy Systems (ISE) in Freiburg and other leading research institutes.